

Application Number 09/873,933
Amendment in Response to Office Action mailed August 30, 2005

REMARKS

This Amendment is responsive to the Office Action dated August 30, 2005. In this Amendment, Applicant has amended claim 1, canceled claims 4, 36, and 46, and added new claims 47-61. Claims 1-3, 37-45, and 47-61 are now pending. However, claims 38, 42, and 45 have been withdrawn from consideration.

Rejection Under 35 U.S.C. § 112, first paragraph

The Office Action rejected claims 36 and 43 under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. Applicant has canceled claim 36, without prejudice. In particular, Applicant does not acknowledge or acquiesce in the propriety of the rejection of claim 36. To expedite prosecution toward allowance, however, Applicant has canceled claim 36. Therefore, the rejection of claim 36 under section 112, first paragraph, should be moot.

With respect to claim 43, the Office Action stated that there is no support in the specification for the following limitation: "wherein the subscriber unit is equipped to receive information including voice, video and data content." Applicant respectfully traverses the rejection of claim 43 under section 112, first paragraph.

The specification, as originally filed, provides support for the limitation set forth in claim 43. With reference to the published version (US2002/0184644 A1) of the present application, paragraph [0004] refers to "[t]ransmission of data (voice, video and/or data) over fiber optic cabling." In addition, FIG. 1 shows reception of voice, data and/or video at a subscriber unit. Consistent with this support, Applicant has amended the specification to further describe the reception of voice, data and/or video at a subscriber unit, as illustrated in FIG. 1. The amendment to the specification is supported by the disclosure as originally filed and introduces no new matter.

In view of the cancellation of claim 36 and the support provided by Applicant's disclosure for claim 43, Applicant respectfully requests withdrawal of the rejection under section 112, first paragraph.

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Election/Restriction

The Office Action required election of one of the following species under 35 U.S.C. 121:

Group I: Claims 1-4, 36, 37, 39-41, 43, 44, and 46 "drawn towards correlating a subscriber unit wherein the installer is prompted for location code."

Group II: Claims 1, 38, 39, 42 and 45 "drawn towards a passive optical network."

The Office Action indicated that claim 1 is generic to point-to-multipoint wire line networks including passive optical network (PONs) and point-to-multipoint wire line networks not including PONs. The Office Action further indicated that Group I is considered to be constructively elected by original presentation, and that claims 38, 39, 42 and 45 are therefore withdrawn from consideration as being directed to a non-elected invention.

Claim Rejection Under 35 U.S.C. § 102

In the Office Action, the Examiner rejected claims 1, 2, 4 and 39-41 under 35 U.S.C. 102(b) as being anticipated by Mulcahy et al (US 6,002,746). Applicant respectfully traverses this rejection to the extent it may be considered applicable to the amended claims. In this Amendment, Applicant has amended claim 1 to more clearly define the invention.

Amended claim 1 defines a method for correlating a subscriber unit in a point to multipoint wire line network with a physical location. The method comprises prompting an installer to manually input a location code associated with a subscriber, receiving the location code in the subscriber unit, and transmitting the location code and a subscriber unit identifier via the network to a central repository. Notably, amended claim 1 more clearly indicates that the location code permits identification of a physical location of the subscriber. The method of claim 1 further requires storing the location code and the subscriber unit identifier in the central repository to correlate the subscriber unit with the physical location.

Previously, claim 1 referred to correlation of a subscriber unit with a physical port in a point-to-multipoint wire line network. The reference to a "physical port" has apparently created confusion concerning the requirements of the claimed invention relative to the prior art. Claim 1 now more clearly refers to a physical location rather than a physical port. When a subscriber unit is installed in a point-to-multipoint wire line network, there is no a priori knowledge as to the

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physical location of the subscriber unit. The subscriber unit can be located at any one of the multipoint locations. Consequently, there is a need to correlate the subscriber unit with a physical location of the subscriber so that services can be provisioned for the subscriber. As described in Applicant's specification, a passive optical network (PON) is one example of a point to multipoint wire line network. In some embodiments, the subscriber unit may be an optical network unit (ONU) in a PON.

Even though a subscriber unit may be known by the point-to-multipoint network, e.g., according to a subscriber unit identifier such as a serial number, the identity of the particular subscriber and physical location associated with the subscriber unit remains unknown. Different subscribers, situated at different physical locations, may request different types or levels of service. Accordingly, correlation of each subscriber unit with a subscriber's physical location via a location code permits provisioning of services for a particular subscriber. The amendments to claim 1 should make the features of the claimed invention more clear, and more clearly emphasize the differences between the claimed invention and the prior art.

Mulcahy et al. applies to a traditional telecommunications network that is fundamentally a point-to-point network. Because the Mulcahy et al. network is point-to-point, the physical location of each endpoint is knowable in advance of the installation of the subscriber unit, and can be maintained in a routing table. Because of the size and complexity of the routing table and the possibility of human error¹, Mulcahy et al. describes a method for learning and/or correcting information that is knowable in advance but may not be known or may be inaccurately recorded. The claimed invention, on the contrary, deals with wireline point-to-point networks where the physical location of a subscriber unit is not known and indeed is unknowable prior to installation.

In view of the differences discussed above, Mulcahy et al. fails to disclose or suggest the requirements of amended claim 1, and dependent claims 2-4 and 36-45. For example, Mulcahy et al. does not disclose prompting an installer to manually input a location code associated with a subscriber, particularly where the location code permits identification of a physical location of the subscriber. On the contrary, Mulcahy et al. describes a technique for updating routing table information for telecommunication lines that have already been activated and established. In particular, Mulcahy et al. describes identification of terminals, nodes, and node types in a pre-

¹ Mulcahy et al., Col. 1, lines 25-30 ("such routing tables are often not accurate").

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established network, but makes no mention of subscribers associated with such equipment, nor location codes that permit identification of physical locations associated with such subscribers.

Hence, Mulcahy et al. is focused on updating existing routing information, and makes no mention of the correlation of a subscriber with a physical location. As mentioned above, Mulcahy et al. is concerned with identification of lines and equipment, none of which reveal information about a particular subscriber, much less a physical location associated with a subscriber, as set forth in claim 1. In a point-to-multipoint wire line network, such as a passive optical network (PON), there is no way to provide a physical correlation because multiple subscriber units are coupled to the same fiber link. This common fiber link serves as a shared communication medium for multiple subscriber units. Although the subscriber units may be known, the physical location of a subscriber served by a subscriber unit in the point-to-multipoint network must be correlated with the respective subscriber unit. In a point-to-multipoint network, in accordance with the claimed invention, a location code is used to correlate the subscriber unit with a subscriber's physical location so that an appropriate level or type of service can be provisioned for the subscriber.

The disclosure of Mulcahy et al. refers to an active terminal line, e.g., a telephone line, in which terminal equipment is already associated with a calling line identity, e.g., a telephone number. In other words, a telephone number already exists in the Mulcahy et al. network and is physically correlated with the terminal equipment. Consequently, there is no need for correlation of a subscriber unit with the physical location of a subscriber in the Mulcahy et al. network. Rather, Mulcahy et al. is directed to recording the physical route of an active line through a local switch for which a telephone number already exists. Mulcahy et al. fails to disclose the subject matter of claim 1, as amended, which requires entry of a location code that permits identification of a physical location of a subscriber associated with a subscriber unit. Therefore, the teachings of Mulcahy et al. are clearly different from the requirements of amended claim 1.

Mulcahy et al. also fails to disclose the limitations added by dependent claim 2. For example, claim 2 further requires checking the location code for errors before storing, upon finding an error, transmitting an instruction to the subscriber unit to indicate error to the installer and upon finding no errors, storing the location code. With respect to claim 2, Mulcahy et al. fails to suggest checking a location code for errors before storing. Instead, Mulcahy et al.

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discloses storing an inputted node and terminal number within database 19 before comparing new and existing data. Col. 8, lines 7-12. Because Mulcahy et al. fails to even consider that inputted data may contain errors, this reference certainly fails to disclose checking the location code for errors before storing, as required by claim 2.

Mulcahy et al. fails to disclose each and every limitation set forth in claims 1-3 and 37-45, as amended. For at least these reasons, Mulcahy et al. does not support a prima facie case of anticipation under 35 U.S.C. §102. In addition, Mulcahy et al. provides no teaching that would have suggested modification to arrive at the invention defined by claims 1-3 and 37-45. Applicant respectfully requests withdrawal of the rejection under section 102.

Claim Rejections Under 35 U.S.C. § 103

The Office Action rejected claim 3 under 35 U.S.C. 103(a) as being unpatentable over Mulcahy et al. in view of Kennedy et al (US 6,163,594), rejected claims 36, 37, 43 and 44 under 35 U.S.C. 103(a) as being unpatentable over Mulcahy et al in view of Steinbrenner et al (US 6,754,310), and rejected claim 46 under 35 U.S.C. 103(a) as being unpatentable over Mulcahy et al. in view of Abe (US 6,493,425). Claim 36 and 46 have been cancelled. Accordingly the rejections of claims 36 and 46 should be moot. However, Applicant respectfully traverses the rejections to the extent they rejections may be considered applicable to amended claims 3, 37, 43 and 44.

Claim 3

Claim 3 is allowable for at least the reasons discussed above with respect to claims 1 and 2. Moreover, claim 3 further requires prompting the installer to reinput a location code. Neither Mulcahy nor Kennedy provides any teaching that would have suggested this requirement of claim 3.

The Office Action acknowledged that Mulcahy does not show prompting the installer to reinput a location code. However, the Office Action stated that, if an error is detected, a field engineer can be instructed to perform appropriate operations to correct the error, referring to Col. 8, lines 19-22, of Mulcahy. However, the error referred to in Col. 8, lines 19-22, is an error in routing, and not an error in entry of a location code, as required by claims 2 and 3.

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Reinputting a location code would not fix an error in routing of a terminating line or any other errors disclosed in Mulcahy. Therefore, one of ordinary skill in the art would have found no motivation to modify the Mulcahy system to include the feature of prompting an installer to reinput the location code, as recited by the Applicant's claim 3, from Kennedy or any other prior art of record.

The Examiner cited Kennedy as allowing a "craftsperson" to re-input a correct directory number. The directory numbers discussed by Kennedy are associated with bearer channels, and are derived automatically from pre-established SPIDs. Therefore, Kennedy does not contemplate correction of errors in numbers entered by an installer. Moreover, Kennedy does not disclose prompting an installer to reinput a location code associated with a subscriber.

For at least these reasons, Mulcahy and Kennedy fail to establish a prima facie case for non-patentability of the Applicant's claim 3 under 35 U.S.C. 103(a). Withdrawal of this rejection is requested.

Claims 37, 43 and 44

Claims 37, 43 and 44 are allowable for at least the reasons discussed above with respect to claim 1. Steinbrenner et al. provides no teaching sufficient to overcome the basic deficiencies already identified in Mulcahy et al. Applicant neither acknowledges or acquiesces in the propriety of the application of the Steinbrenner et al. reference to the invention defined by claims 37, 43 and 44. Rather, at this time, Applicant reserves further comment concerning Steinbrenner et al. in view of the clear deficiencies in the Mulcahy et al. reference.

New Claims

Applicant has added claims 47-61 to the pending application. No new matter has been added by the new claims. The applied references fail to disclose or suggest the inventions defined by Applicant's new claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed inventions.

For example, claims 49-56 define a method comprising receiving a location code associated with a subscriber in a subscriber unit in a point-to-multipoint network, and transmitting the location code and a subscriber unit identifier from the subscriber unit to a remote

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device for correlation of the subscriber unit with a physical location. The location code permits identification of a physical location of the subscriber.

Claims 57-61 define a subscriber unit for a point-to-multipoint network, the subscriber unit comprising a subscriber interface to receive a location code associated with a subscriber, and a network interface to transmit the location code and a subscriber unit identifier to a remote device for correlation of the location code with a physical location. The location code permits identification of a physical location of the subscriber.

Claims 49-61 are patentable over the prior art of record for reasons similar to those stated above with respect to claims 1-3 and 37-46.

CONCLUSION

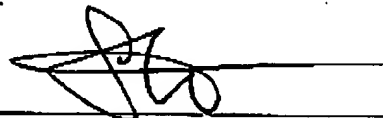
All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

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